

Observations on some CAPSIDÆ with descriptions
of a few new species.

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(No. 2.)

Div. CYLLECORARIA.

Pilophorus, Hahn.

This genus was separated by Hahn in his *Icones ad Monog. Cim.* I, No. 23, to contain a European species the *Capsus bifasciatus* Fab., which is also a synonym of *Cimex clavatus* Linn. Since then two other species have been recognized, and all three have been placed in another genus (*Camaronotus*) by Fieber, in his *Europäischen Hemiptera*. Still later, Douglas and Scott in their *British Hemiptera* have gone so far as to base a family upon this genus, to which they have given the name *Camaronotidæ*. North America is not less well provided with representatives of this genus than is Europe, and unless we are mistaken in the value of the characters employed to separate them, the United States has more species than the old world. Dr. O. M. Reuter has recently studied the European forms of the *Capsidæ*, and with a larger amount of material than has been before any previous Hemipterist. Accordingly, with a wider view than any of his predecessors, he has deemed it more accurate to arrange this *Pilophorus*, in company with *Mimocoris*, *Myrmicomimus*, *Cremnocephalus*, *Elhelastia*, *Systemonotus*, *Læmocoris*, *Eroticoris*, etc., in a division *Pilophoraria*.

The genus *Pilophorus* has such a different facies from any of our other known *Capsidæ* that it would seem to be recognizable at once by the shape and adjustment of the head alone. The Ant-like form of the body, especially in the nymph, together with its habit of rapidly coursing over the bark of trees renders it liable to be mistaken for one of the small red or brown Formicidæ. Our American species differ much in the width of the body, the females being more robust than the males, but they are all more or less spindle-shaped, contracted across the basal half of the hemelytra. They have a broad head which curves back beyond the sides of the swollen pronotum, sits close against it, is of a conical form, scooped out behind and below there is a high carina connecting the eyes, and the face is very sloping anteriorly. The males usually have a more parallel-sided prothorax than the females.

1. *P. confusus* Kirschb. Rhynchot, Wiesbaden, p. 133, 9.

This species agrees almost exactly with the insect so named by Kirschbaum, of which I have several examples received direct from Meyer-Dür of Bergdorf, Switzerland, and which were determined by him to be the true *P. confusus*.

In the Atlantic region this insect lives upon willow bushes, and is sometimes rather common in September. It is next to the smallest species of the genus thus far discovered in North America, and will no doubt prove to be extensively distributed on this continent when it becomes more sufficiently known.

2. *P. amœnus*, new sp.

Piceous, opaque, highly polished beneath; aspect of *P. bifasciatus* Fab., but with a narrower pronotum which differs but very little in the two sexes; with the second joint of antennæ more strongly and abruptly clavate on the apical one-third. Head long and broad, including the eyes about as wide as the base of the pronotum, face obsoletely shagreened, transversely wrinkled, vertex with an impressed longitudinal line running from the middle of occipital ridge, and each side of this a shorter diagonal impression connected inwardly with a depressed point. Rostrum pale rufopiceous, darker at base, reaching to the middle coxæ ♀, but a little longer in the male; antennæ long, reddish yellow to beyond the middle of the second joint, that joint longer than the head and pronotum united, the last two joints slender whitish, the apical one a little dusky near the tip. Pronotum blackish-piceous, more or less dull, sub-cylindrical, trapezoidal comparatively narrow, obsoletely scabrous and wrinkled, but sinuated on the sides posteriorly, which is caused by the great prominence of the postero-lateral angles; middle line impressed, proceeding from an indentation in front; posterior-margin distinctly concave, and in front of this the surface convexly elevated; pleural flaps transversely wrinkled. Sternum and pleural pieces highly polished, coxæ piceous, anterior wide in the middle, posterior pair broadly white at tip; femora and tibiæ piceous, the former usually paler at base. Hemelytra cinnamon fulvous, piceous across the apical third and including the cuneus, corium with a slender silvery band extending half-way across the middle, a band of the same color forming the basal boundary of the piceous part, and at the inner corner of the cuneus a silvery dot; membrane dusky with a darker spot at base. Scutellum black, tumid, polished, minutely scabrous, the tip much depressed. Venter piceous black, highly polished, a little rufescent when recently excluded.

Length to tip of membrane $4\frac{1}{2}$ — $5\frac{1}{2}$ mm.; to tip of venter $3\frac{3}{4}$ — $4\frac{1}{4}$ mm. Width of base of pronotum $1\frac{1}{4}$ mm.

This species closely resembles the *P. bifasciatus* Fab., Mantissa Ins. II, 305, 264; of which *P. cinnamopterus* Kirschb., is a synonym.

Our knowledge of the distribution of this species is as yet very inadequate. It sometimes abounds on Pine trees in late June and July in Maryland. When fully matured some specimens have a faint bronze tinge upon the surface of the pronotum, which is not apparent in others. Possibly this peculiarity is due to the influence of the heat generated in their bodies at the period of mating.

3. *P. Walshii*, new sp.

This form has been held back for a long time in the hope that other specimens may be secured to enable a wider comparison with the European species.

It is in reality much smaller than the *P. clavatus* Linn., to which it

seems the most nearly allied. Its figure, however, appears broader, the general color is a dark cinnamon fulvous, more or less piceous upon the disk of the pronotum.

Head rufo-fulvous, the face obsoletely transversely wrinkled, having a few impressed points scattered over the surface; base of vertex with a slightly raised deltoid spot; eyes projecting a little wider than the front of the pronotum, but decidedly most prominent in the male; antennæ slender, of medium length, rufo-fulvous; with the apical one-third of second joint fuscous, that joint graduated a little thicker towards the tip, and about as long as the pronotum and eye united; third and fourth joints together shorter than the second, dusky, white at base, the third a little longer than the fourth; rostrum rufous, reaching to the middle coxæ. Pronotum trapezoidal, moderately convex, wide, the lateral margins diagonal, slightly sinuated, but a little more sinuated in the male. Legs, pectus, and basal half of venter pale rufo-fulvous, the apical half of the latter piceous; coxæ more or less white. Scutellum dusky, moderately tumid, a little scabrous, fulvous at tip. Corium and clavus cinnamon fulvous, sometimes darker, the former with a very slender silvery band beyond the base, a second similar, dislocated one behind the middle and a silvery dot at the inner angle of the cuneus; the cuneus and a polished spot near the apex of corium pale piceous; the membrane dusky.

Length to tip of membrane $3-3\frac{1}{2}$ mm.; to end of abdomen $2\frac{3}{4}$ mm. Width of base of pronotum 1 mm.

This form appears more flat above than is common to the species in this division of the genus.

Several specimens were kindly sent to me by the late B. D. Walsh, who collected them in the neighborhood of Rock Island, Ill.

Pamillia, new genus.

Form of *Pilophorus*, but more close set and with a thicker abdomen. Head deeper and more convex, face narrower and more nearly vertical; occiput with a carina between the eyes; antennæ exceptionally thick, of nearly equal thickness throughout, the second joint as long as the eye and pronotum united, third and fourth together about as long as the second, and both contracted at base, the fourth shortest, conical at tip. Pronotum trapeziform, about as wide as long, very convex, deeply sinuated each side, which causes the posterior angles to prominently project laterally. Hemelytra much widened behind the middle as far as the tip, the outer margin of corium broadly curved, widely reflexed; the cuneus wide and short, acute at tip, feebly incised at base. Legs stout, the hind pair long, and all the tarsi slender.

P. Behrensii, new sp.

Chestnut brown, moderately polished, more robust and wider posteriorly than the average species of *Pilophorus*. The pronotum also proportionately wider, with the lateral margins oblique, concave, and the disk more generally convex. Head convex, shorter, and less compressed than in *Pilophorus*, polished, very minutely scabrous, transversely obsoletely wrinkled, depressed across the base, the middle line

feebly impressed; eyes pale, more prominent laterally in the male than in the female; antennæ very stout, all the joints of nearly equal thickness, the second joint about as long as the eye and pronotum united, the third and fourth short, both contracted at base, the fourth shortest almost at tip; rostrum pale rufo-piceous, reaching to tip of the middle coxæ. Scutellum paler brown, yellowish at tip, moderately convex, transversely impressed before the base. Legs piceo-fulvous, a little embrowned at the points of articulation, the posterior acetabular flap white. Pleural pieces fulvous, polished. Hemelytra pale fuscous invested with erect hoary pubescence; the clavus fulvous, a little embrowned at base, corium with a triangular white spot at base, a pale costal margin and a white oblique band across the broad apex; cuneus short, triangular, fuscous, margined exteriorly and at tip with white; membrane dusky, darker at base, venter piceous, sericeous pubescent, fulvous in the basal angle.

Length to tip of membrane 4 mm.; to end of venter $3\frac{1}{4}$ mm. Width of base of pronotum a little less than 1 mm.

Two specimens collected in the neighborhood of San Francisco, were kindly given to me by Mr. James Behrens, to whom I desire to dedicate this species as a slight recognition of the many services he has done in several branches of Entomology.

The thick texture of the integuments, besides the exceptionally stout antennæ, and bent hemelytra, will abundantly separate this species from all its allies thus far recognized.

Diommatus, new genus.

General outline oblong elliptical. Head viewed from above nearly triangular, the face almost vertical, moderately tumid in front, longitudinally indented and excavated above. Superior cheeks short, tapering towards the tip, inferior cheeks wide, oblong, prominent, blunt at tip. Occipital edge carinate. Eyes large, prominent almost spherical (σ), vertical sub-oval ♀ . Tylus short, very prominent, cylindrico-convex; curved beneath. Antennæ about as long as the wing-cover, slender, the joints gradually decreasing in thickness from the basal to the third one; the basal stout, abruptly contracted at base, but little longer than the apical one, the latter being of the same thickness as the third, the second long, cylindrical, equal to the third and fourth united. Rostrum slender, the basal joint a little longer than the throat. Pronotum trapezoidal, nearly flat, shorter than the width at base, the callosities prominent, and breaking the continuity of the oblique, blunt lateral margin. Scutellum moderately convex, bluntly acuminate at tip. Hemelytra long and narrow, thin, pubescent, the cuneus long, slender and acute at tip, with the outer margin nearly straight, the inner margin concave, and the base very slightly incised. The membrane also long, with the principal cell long and rather narrow. Legs long, slender, the posterior femora stout, compressed, curved; posterior tarsal joints moderately long, the basal and middle joint subequal, the apical one longest. Abdomen narrow and not distinctly contracted at base.

D. congrex, new sp.

Pale green, shining, feeble, pubescent. Head polished, with either a fuscous circle, or piceous spot overlapping the tylus, between the eyes. Eyes dark brown. Occipital collar ivory-yellow. Antennæ very minutely pubescent, testaceous, more or less infuscated, especially towards the base, the basal joint highly polished. Rostrum scarcely reaching to the middle coxæ, piceous at tip. Pronotum usually with two gradually widening black vittæ each side, or with nearly the whole of the posterior lobe and most of the anterior lobe infuscated; the surface feebly convex, transversely wrinkled, obsoletely punctate, minutely sericeous pubescent; the anterior angles rounded, the posterior ones nearly rectangular. Scutellum either wholly infuscated, or with a black vitta each side, transversely wrinkled, minutely pubescent. Legs pale green, the femora remotely bristly, having a few coarse punctures; the tarsi and tips of femora piceous. Corium pale greenish or whitish, the clavus and a broad vitta, continued on the inner side and along the cuneus, blackish; membrane blackish-fuliginous, pale next the cuneus and on the vein of the cell.

Length to the tip of venter, ♂ $3\frac{1}{2}$, ♀ $4\frac{1}{2}$ mm.; to tip of wing-covers 5—6 mm. Width of pronotum $1\frac{1}{4}$ mm.

It is a common insect in Eastern Massachusetts; and it has also been taken in Maine, Canada and Illinois.

Mr. E. P. Van Duzee has kindly sent to me specimens from Lancaster, N. Y., collected on the first of July.

Bolteria, new genus.

Closely related to Labops; form broad and nearly flat. Head broad nearly vertical in front, vertex very short and transverse, depressed, with a high carina between the back part of the eyes; front shield-shaped, tumid, pushed up so as to be all between the eyes; the eyes large, vertical, reniform, projecting sideways beyond and almost in contact with the pronotum; antennæ seated beneath and a little before the lower end of the eyes; tylus almost flat, the jugum is large, triangular and reaching a little more than half way down the tylus; superior cheeks long, elliptical, swollen, the inferior ones small, depressed, triangular; rostrum abruptly reduced in size beyond the basal joint, that joint very broad, compressed, reaching almost to the tip of the cuneus, the basal joint long, stout, contracted at base, the second joint a little less stout, cylindrical, longer than the clavus, third and fourth shorter, not much thinner than the second, hardly setaceous. Pronotum transverse, sloping forwards, almost flat, the sides oblique, decurved, abruptly contracted beneath and with the carinate edge obliterated, anterior margin a little shorter than the basal; callosities small, transverse, long elliptical, widely separated. Scutellum almost flat, with a transverse linear impression at base. Corium wide towards the tip, with the costal margin very moderately curved; cuneus wide at base, acute at tip, concave on the inner margin, the incisure at base deep; membrane with the basal

areole very wide and long, the inner areole very distinct, about one-third as wide at tip as the preceding. Middle joint of tarsi very short, the basal and apical ones long, nearly equal.

B. amicta, new sp.

Ivory yellow, or pale fulvous; form much like that of *Geocoris bullatus* Say. Head smooth, an oblong spot in each angle at base of vertex, a crescent each side bounding the convexity of the face, transverse ridges of the front placed each side of a depressed longitudinal line, three spots above the tylus, middle line of the latter, and margins of all the segments of the cheeks rufous; sockets of the antennæ, basal joint of the same, and basal joint of the rostrum dark piceous. Base of vertex with an impression along the front of the carina, and this connects with the longitudinal indentation each side, and next below which is an arcuated, impressed, scabrous line bounding each side of the front; basal carina almost straight, the occipital area piceous, triangularly excavated each side; antennæ rather slender, excepting the basal joint, dusky, paler at tip, the second joint of equal thickness throughout, much thinner than the basal one, and about as long as the eye and pronotum taken together; rostrum pale piceous beyond the basal joint, reaching over the tip of the posterior coxæ ♀, but extending upon the base of the last ventral segment ♂. Pronotum polished, a little narrower in front than at base, ivory-yellow, roughly unevenly punctate, piceous on the collum, posterior margin, and on the lateral margin at base; fore part of the disk fulvous each side. Margins of the pleural segments, and more or less of the coxæ, rufous. Scutellum ivory-yellow, piceous across the base, polished, minutely wrinkled. Corium feebly polished, opaque, obsoletely punctate, margined exteriorly and interiorly and with a gradually widening curved streak running back to a wavy broad band at tip, piceous; clavus more coarsely punctate, margined on both sides with piceous; cuneus ivory-yellow, broadly piceous at tip and slenderly so on the exterior margin; membrane dusky, paler at base, the nervules of the areoles pale yellow, and the areoles dusky next the tip. Legs dull testaceous, more or less piceous on the femora and tip of tibiæ, tarsi dark piceous. Venter highly polished, the sutures, incisures, ovipositor, and genitalia rufo-piceous or rufous.

Length to tip of venter 4 mm.; to tip of membrane $4\frac{1}{2}$ —5 mm.

Mr. Bolter collected several specimens in New Mexico and kindly gave me a pair of both sexes.

Diagn. **PLAGIOGNATHARIA.**

Psallus delicatus, new sp.

Rosy pink or testaceous tinged with dull brown; moderately robust, polished. Head almost vertical; face convex, smooth along the middle, and each side of this with a crescent composed of short fuscous transverse lines, the middle line of vertex obsoletely impressed; tylus short, prominent, tinged with pale piceous; antennæ testaceous, dusky on the last two joints, sometimes the basal and second joints pale piceous; basal shorter than the head, the second a little longer than the pronotum; tips of the cheeks and base and tip of the rostrum generally piceous, the latter reaching upon the posterior coxæ; eyes dark brown, nearly equal abruptly beneath where bending upon the throat. Pronotum polished, convex, transverse, remotely very obscurely punctate; the lateral margins carinate-reflexed, oblique, hardly sinuated; the callosities generally fuscous in the surrounding depressed lines;

the propleural flap deeply depressed beneath the carinate margin, and broadly indented above the coxæ. Legs dull testaceous, the spines black, and the posterior femora marked with lines of brown dots. Scutellum highly polished, moderately convex, obsoletely minutely rugulose, entire, subacuminate at tip. Hemelytra wide, minutely, remotely pubescent, darker upon the disk than upon the margins, the clavus rather coarsely punctate, the corium obsoletely punctate, but a little coarsely so at base; the costal margin feebly curved, sharply reflexed, pale, becoming gradually wider behind, and at the outer angle jutting beyond the base of cuneus; the cuneus pale across the base and upon the margins, the tips acute; nervules of membrane pale, the membrane sometimes clouded at base and tip. Venter dusky from base to just before the last segment, excepting the connexivum, the edges of the segments testaceous. Sternum sometimes with a dark band across the middle.

Length to tip of venter $2\frac{1}{2}$ —3 mm.; to tip hemelytra 3— $3\frac{1}{2}$ mm. Width of base of pronotum $1\frac{1}{4}$ — $1\frac{1}{2}$ mm.

The dark variety of this species has been captured in the highlands of Georgia.



Notes on certain North American species of the group called by M. Guénée 'Acronycta'.

By A. G. BUTLER, L. L. S., L. Z. S.

I propose, from time to time, whilst incorporating the Grote and Zeller collections with the series in the British Museum to publish a few critical notes on the various types or co-types in our possession: the following notes, which are not based upon my individual judgment alone, but are supported by the opinion of a co-worker, are I believe absolutely correct.

When Messrs. Grote, Robinson and Riley examined our collections they neither had time or opportunity to examine the whole of the specimens in the British Museum, Grote and Zeller collections side by side (i. e. placing the types together upon one piece of pith and critically comparing both surfaces) and therefore it was not to be expected that their published notes should be final.

A. *brumosa*, Guén.

We possess the types labelled by M. Guénée from W. Doubleday's collection: one of them—the type of the species—is labelled simply '*Acr. Brumosa, Gu.*'; it agrees perfectly with the type of *Apatela persuasa* Harvey, in Grote's collection; the other specimen is labelled '*variety Acron. Brumosa, Gu.*' and agrees with the type of *Acronycta afflicta*, Grote.

The *A. brumosa* of Grote's collection is therefore not Guénée's species but is = *A. verillii*, Grote, = *fusciata*, Walk., = *impressa*, Walk., as pointed out by Grote.